Airborne Signals Intelligence Payload
U-2 SIWG-28 Jul 04

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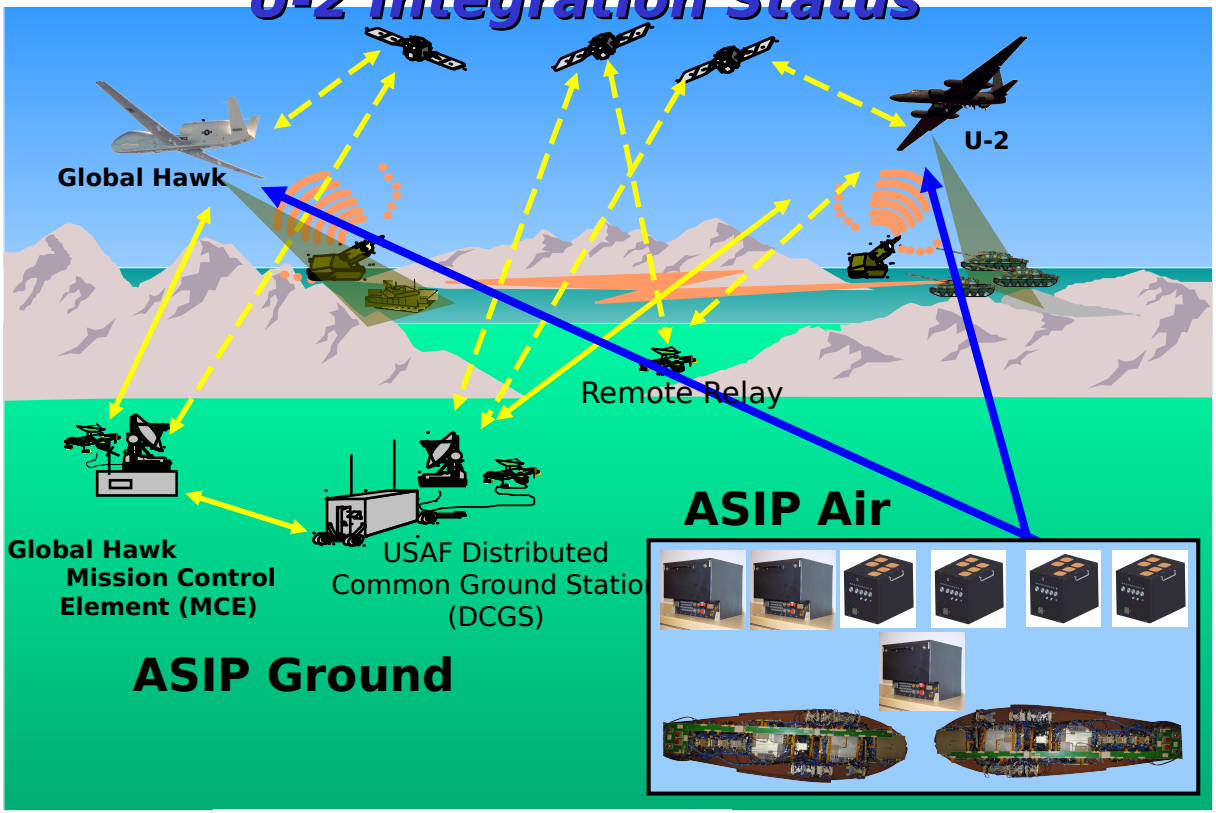
System-of-Systems Program Status & U-2 Integration Status



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LOCKHEED MARTIN
Raytheon
NORTHROP GRUMMAN
L3 communications

ASIP System-of-Systems

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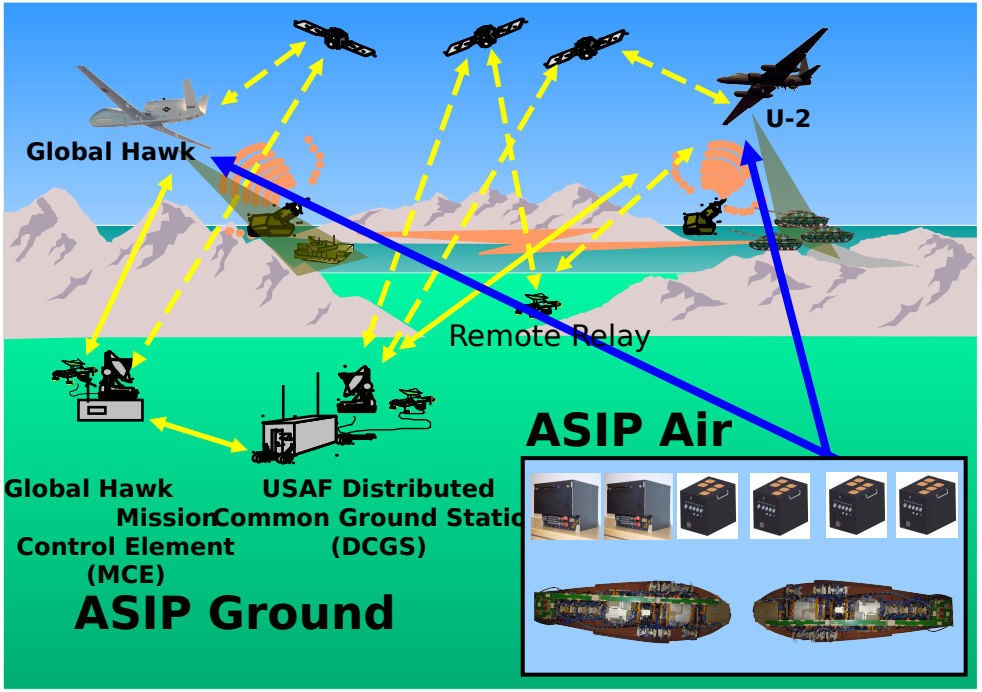
How do we weave all this together into an integrated, warfighting



- ✓ **Focus on the "End" in E2E**
  - ➢ **Performance in the DCGS ultimate goal**
  - ➢ **E2E = Requirements + systems engineering + test + operator acceptance**
- ✓ **Contractor team must pull together**
  - ➢ **Synchronize performance objectives**
  - ➢ **Allocate incentive equitably across contractor team**
- ✓ **Government team must pull together**
  - ➢ **Provide contractors constructive feedback through Award & Incentive Fee, CPAR, Period Plan contract processes**
  - ➢ **Implement IT-based communications and collaborative info sharing tools**

ASIP Team

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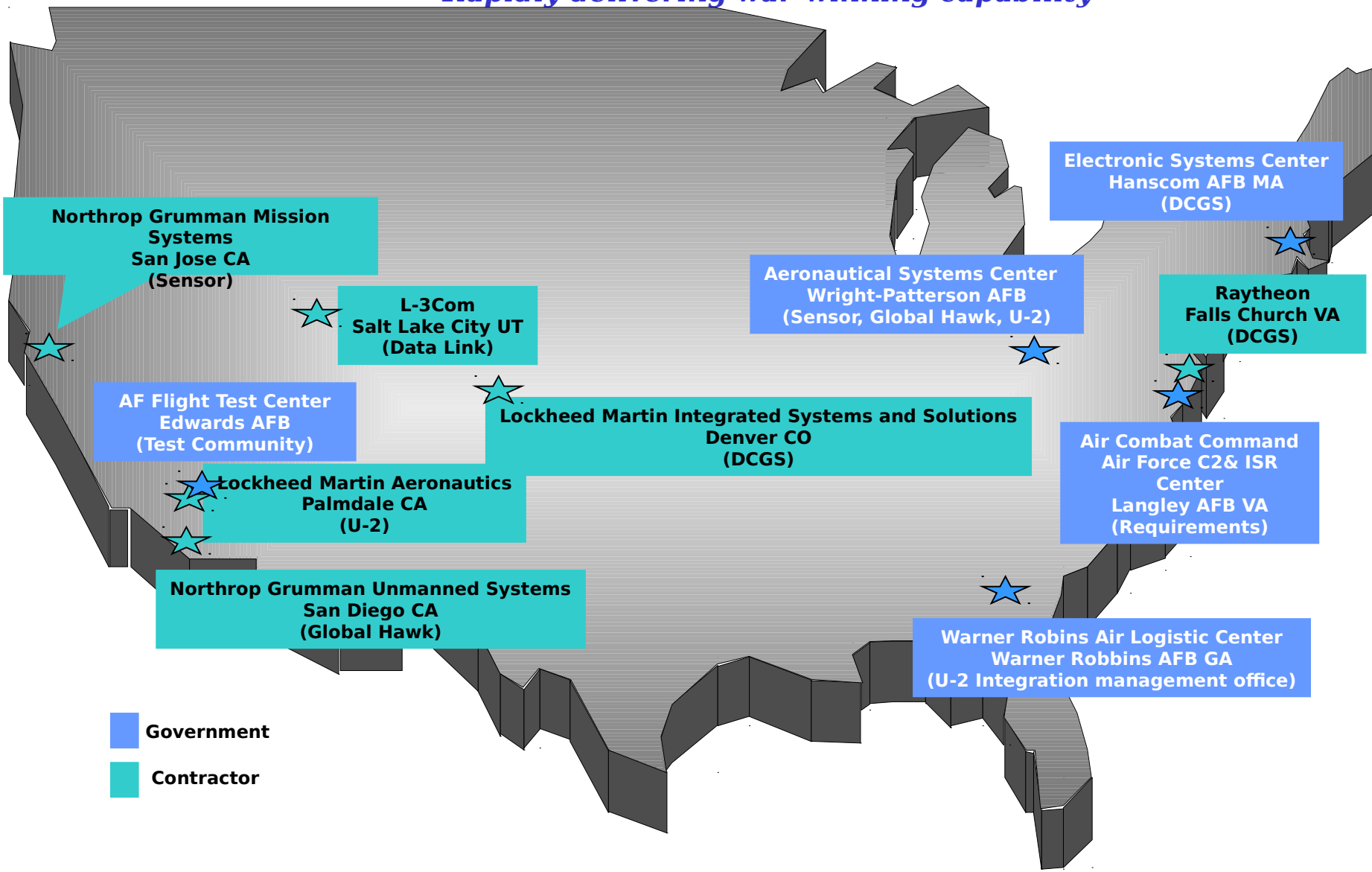

ASIP Incentivization

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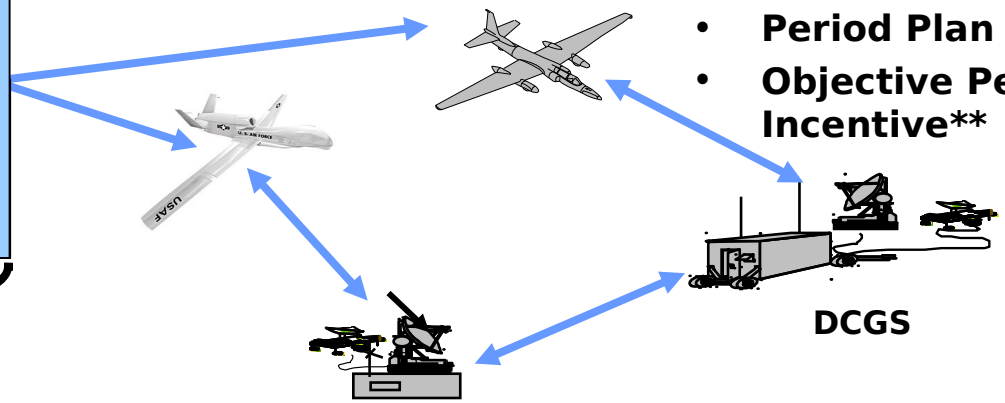
1) Synchronized Contract Incentives*: Milestones, CPARS/Period Plans, Award Fee, Cost, Schedule, Technical Performance, Teaming, Interface Control Document

2) Objective Performance Incentive (OPI): $15M awarded for successful end-to-end flight test performance**

ELINT Antenna Upgrade (EAU)

ASIP Sensor



MCE

DCGS

Sensor Contract -- NG-MS

- Award Fee*
- CPAR*
- Objective Performance Incentive**

Global Hawk Contract -- NG-UMS

- Award Fee*
- CPAR*
- Objective Performance Incentive**

m

- Incentive Fee Contract
- Period Plan / CPAR*
- Objective Performance Incentive**

DCGS Contract -- Raytheon-FC/LM-IS&S

- Fixed Fee Contract
- Period Plan / CPAR*
- Objective Performance Incentive**

Incentivizing Contractors to Team and Field an Integrated SIGINT Capability

ASIP Management Structure

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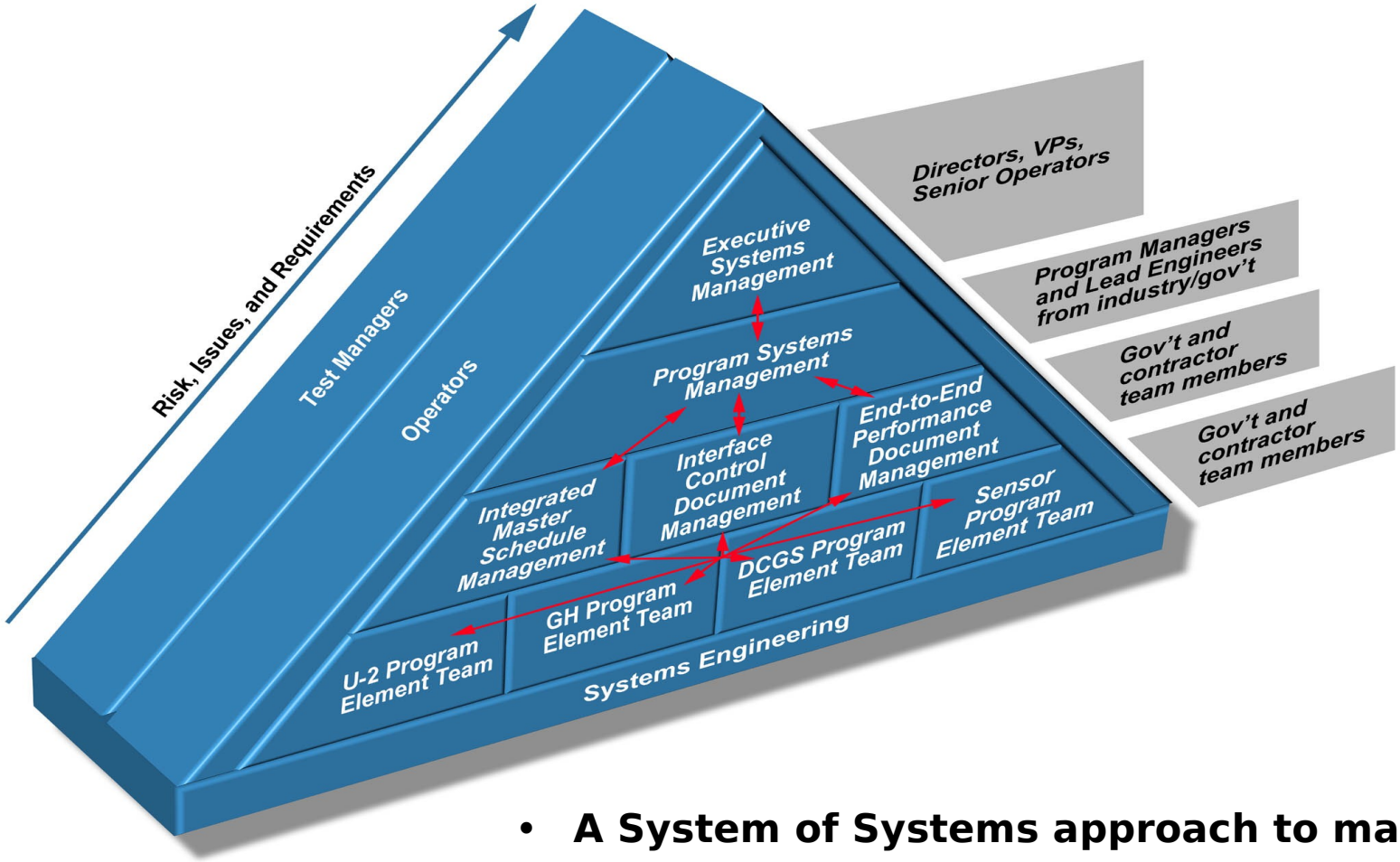

- **A System of Systems approach to managemer**
- **Multiple U.S. Government contracting organizations coordinating multiple contracto teams required for success**

ASIP System-of-Systems Schedule

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	FY03		FY04				FY05				FY06				FY07		
	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3
Executive System Mgmt Reviews																	
Sensor Development Milestones	Contrac t Award		SRR	SDR		PDR	CDR				GH FAT		U-2 FAT				
Common Sensor Development																	
DCGS Development/MOD					L-PDR		L-CDR		R-APDR					DCGS ASIP UPDATE			
					R-HPDR			R-HCDR		R-ACDR							
Operator-In -the-Loop Events						R-ASDR											
Logistic Milestone Decision Points						U-2/GH Sensor Mnx Concept			Sensor SORAP Complete								
							GH Chassis / System Integration										
								AFS Chassis / System Integration									
									GH I&T								
										AFS I&T							
											GH Flight Test						
											1st Sys Delivered for Flt Test						
												AFS Flight Test					
														End-to-End Flight Test			
														Objective Performance Incentive Decision			
															SIGINT Capability Delivered		

ASIP Strategic Rhythm

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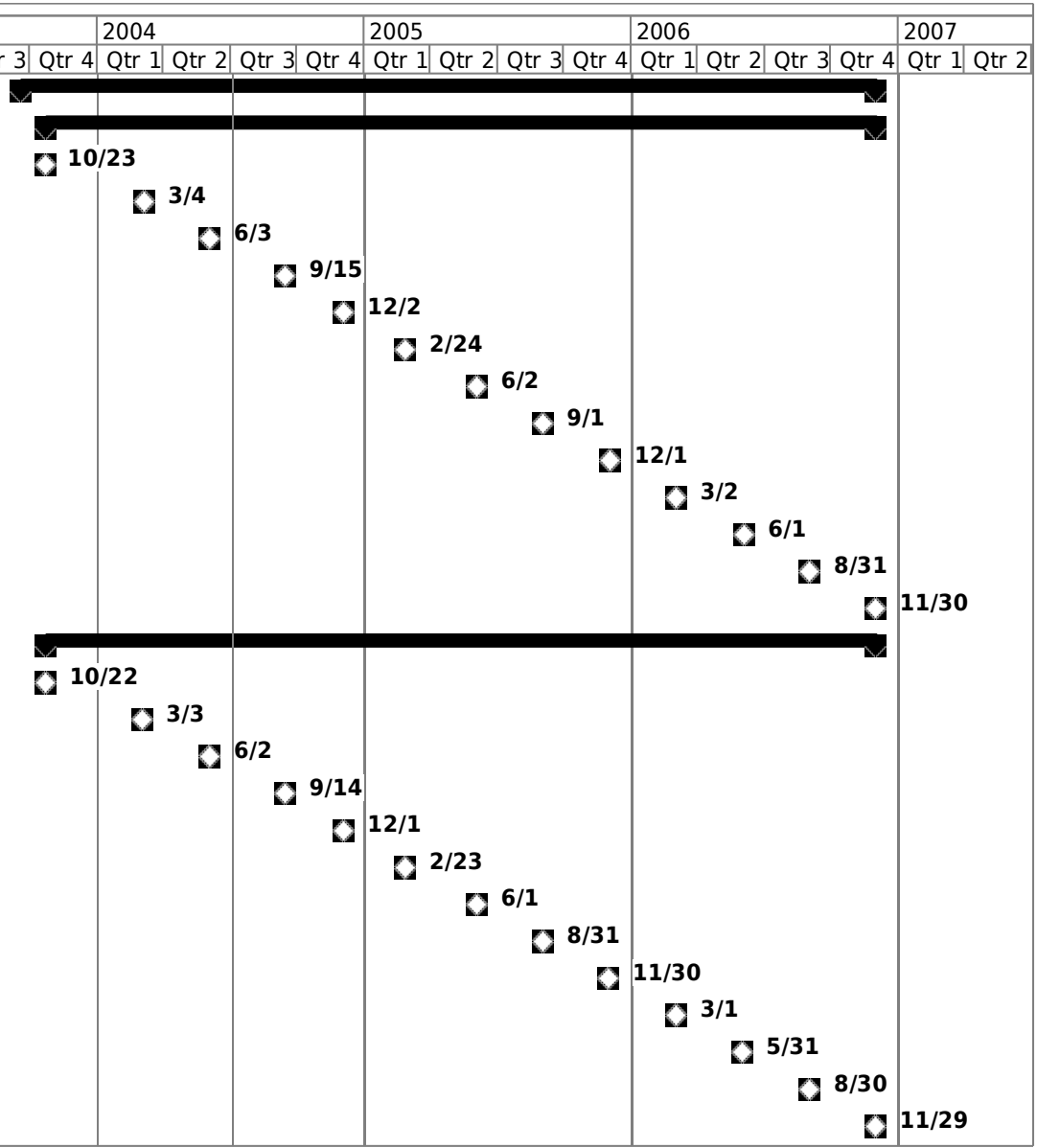
ID	Task Name	Start
1	**ASIP Strategic Rhythm**	**Wed 9/17/03**
2	**Executive System Management Meetings**	**Thu 10/23/03**
3	ESM #1	Thu 10/23/03
4	ESM #2	Thu 3/4/04
5	ESM #3	Thu 6/3/04
6	ESM #4	Wed 9/15/04
7	ESM #5	Thu 12/2/04
8	ESM #6	Thu 2/24/05
9	ESM #7	Thu 6/2/05
10	ESM #8	Thu 9/1/05
11	ESM #9	Thu 12/1/05
12	ESM #10	Thu 3/2/06
13	ESM #11	Thu 6/1/06
14	ESM #12	Thu 8/31/06
15	ESM #13	Thu 11/30/06
16	**Program System Mangement Meetings**	**Wed 10/22/03**
17	PSM #1	Wed 10/22/03
18	PSM #2	Wed 3/3/04
19	PSM #3	Wed 6/2/04
20	PSM #4	Tue 9/14/04
21	PSM #5	Wed 12/1/04
22	PSM #6	Wed 2/23/05
23	PSM #7	Wed 6/1/05
24	PSM #8	Wed 8/31/05
25	PSM #9	Wed 11/30/05
26	PSM #10	Wed 3/1/06
27	PSM #11	Wed 5/31/06
28	PSM #12	Wed 8/30/06
29	PSM #13	Wed 11/29/06



ASIP Strategic Rhythm

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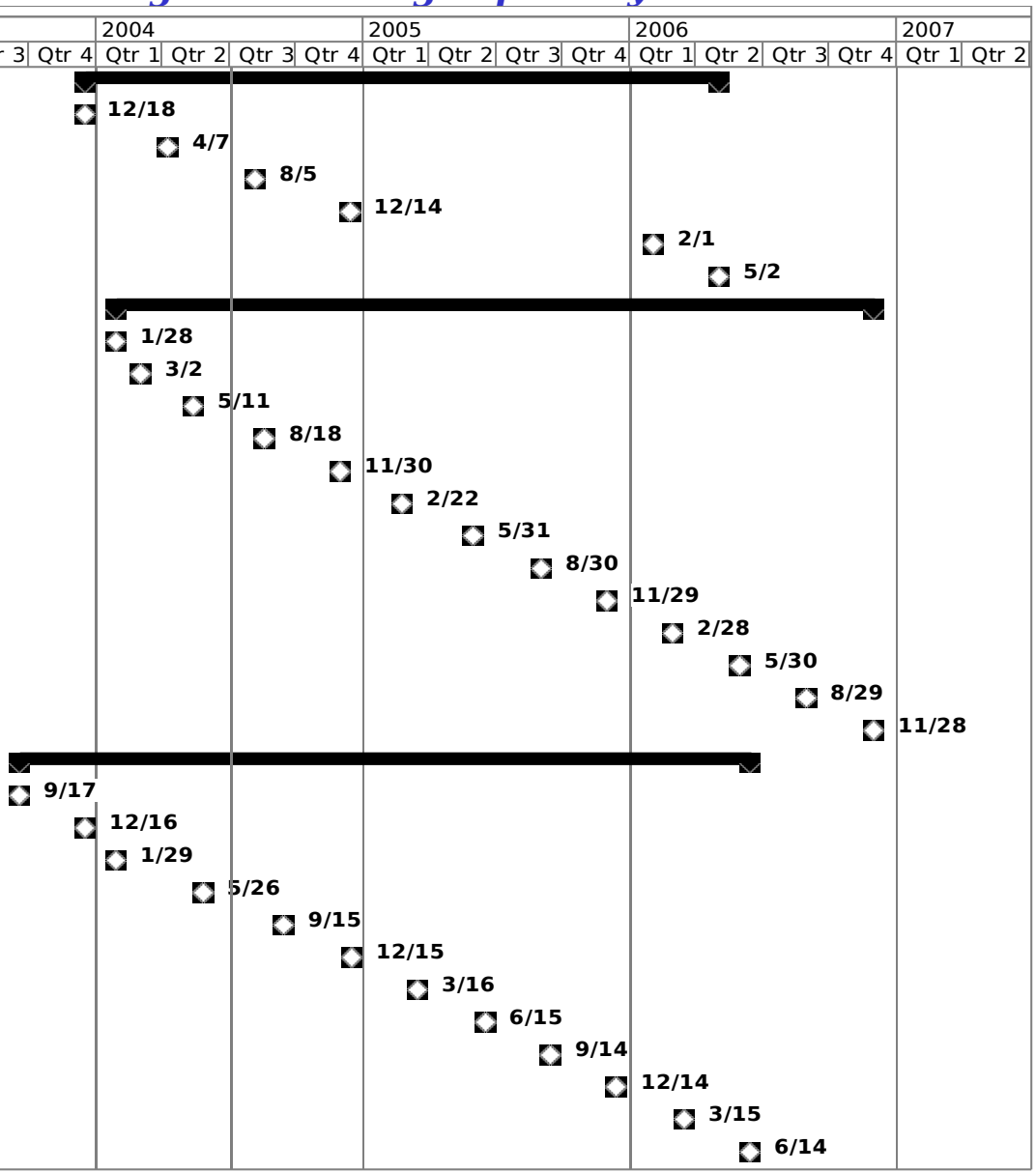
ID	Task Name	Start
30	**Milestones**	**Thu 12/18/03**
31	System SRR	Thu 12/18/03
32	System SDR	Wed 4/7/04
33	System PDR Complete	Thu 8/5/04
34	System CDR Complete	Tue 12/14/04
35	Global Hawk FAT	Wed 2/1/06
36	AFS FAT	Tue 5/2/06
37	**System Program Mangement Reviews**	**Wed 1/28/04**
38	PMR #1	Wed 1/28/04
39	PMR #2	Tue 3/2/04
40	PMR #3	Tue 5/11/04
41	PMR #4	Wed 8/18/04
42	PMR #5	Tue 11/30/04
43	PMR #6	Tue 2/22/05
44	PMR #7	Tue 5/31/05
45	PMR #8	Tue 8/30/05
46	PMR #9	Tue 11/29/05
47	PMR #10	Tue 2/28/06
48	PMR #11	Tue 5/30/06
49	PMR #12	Tue 8/29/06
50	PMR #13	Tue 11/28/06
51	**Test Plan Working Groups**	**Wed 9/17/03**
52	TPWG #1	Wed 9/17/03
53	TPWG #2	Tue 12/16/03
54	TPWG #3	Thu 1/29/04
55	TPWG #4	Wed 5/26/04
56	TPWG #5	Wed 9/15/04
57	TPWG #6	Wed 12/15/04
58	TPWG #7	Wed 3/16/05
59	TPWG #8	Wed 6/15/05
60	TPWG #9	Wed 9/14/05
61	TPWG #10	Wed 12/14/05
62	TPWG #11	Wed 3/15/06
63	TPWG #12	Wed 6/14/06



Top Issues

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- **Issue: Congressional marks to program**
  - **Impact**: Any further marks will result in reduced/delayed capability
  - **Level of help requested**: SAF/AQI and AF/XOI
  - **Status**: HASC $6.3M GH Mark—TBW in conference

- **Issue: Traditional Test Concept=SoS Test Concept**
  - **Impact**: High flight test cost/conflicting results/inefficient
  - **Level of help requested**: AFOTEC/412 TW

- **Issue: Operator-in-the Loop availability**
  - **Impact**: Poor expectations management/dissatisfied user
  - **Level of help requested**: ACC/IN, 480th IN, AIA/XP

Accomplishments

(since Mar 04)

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- ✓ **Expenditures tracking 4 months ahead of plan/OSD goals met Oct 04**
- ✓ **Global Hawk SWaP resolved**
- ✓ **ATM funded and on-track to meet ASIP test requirements**
- ✓ **Baseline negotiated from $190M-$180M**
- ✓ **U-2 Integration/Site II SCIFing contracted/funded ($13.8M)**
- ✓ **DCGS contracted/funded ($49.4M)**
- ✓ **L3-Com contracted/funded ($.5M)**
- ✓ **LMA U-2 Systems 2 & 3 support contracted/funded ($2.5)**

Accomplishments

(since Mar 04)

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- ✓ **U-2 System's 2 and 3**
  - ✓ RFP let-contract award within 30 days ($42.5M)
  - ✓ Shortfall funding allocated from ASE PE ($2.5M FY07)
  - ✓ Logistics spares sourcing

- ✓ **Reviews**
  - ✓ SDR -ESM (at G.O. level)
  - ✓ SPR (SAF/AQX) -PSM
  - ✓ IBR (SAF/FMB) -SYER
  - ✓ ASC Industry Day -AFOTEC Core Team Meeting 1

- ✓ **ASIP Production Facility Assessment**

- ✓ **$1.9M Air Force Top-Down Bill**
  - ✓ Currently no Ms. Phipps Marks
  - ✓ Survived many attempts to source program as a bill payer

Next 60-Days

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- **3-5 Aug: ASIP Sensor PDR**
- **16 Aug: Col Coale assumes RA SPD responsibilities**
- **18 Aug: ASIP Sensor PMR**
- **17-19 Aug: AFOTEC Core Team Meeting 2**
- **26 Aug: GCP CDR**
- **3 Sep: DGIF CDR**
- **14-15 Sep: PSM/ESM (NG UMS, San Diego)**
- **16 Sep: ASIP ITT**

Challenges

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- **Coordinating activities across six contractors and several USG organizations**
- **Solidifying Global Hawk flight test schedule**

ASIP System of Systems Technical Progress

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- **Scorecard Approach**
  - **Inputs from Associate Contractors**
  - **NGMS SoS Chief Engineer view**
  - **Major development activity identified and technical progress assessed as**

	Excellent Progress
	On Track
	Behind
	We Need Help

Major Technical Activities

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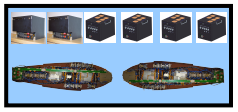
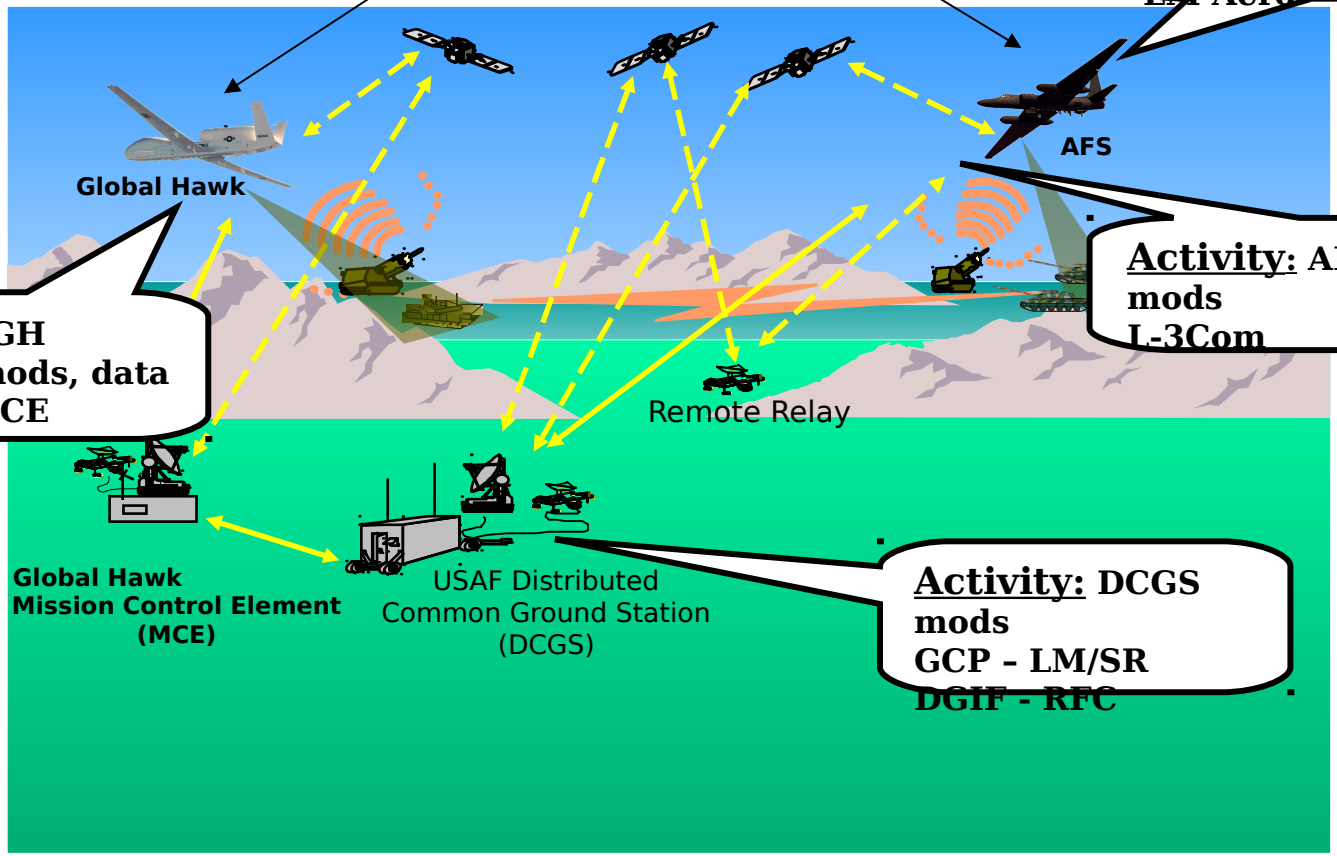
Activity: ASIP Sensor Dev
NG/ESL

ASIP Sensor



Activity: AFS platform mods
LM Aero



Activity: AFS Data link mods
L-3Com

Activity: GH platform mods, data link and MCE
NG/UMS

Activity: DCGS mods
GCP – LM/SR
DGIF - RFC

LOCKHEED MARTIN
Raytheon
NORTHROP GRUMMAN
L3 communications

Sensor

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Major Activities

Sensor Development

- **Successful SDR**

Sensor Integration (HB+LB)

AFS Platform Interface

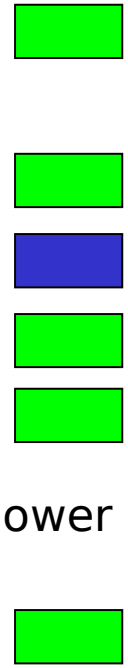
GH Platform Interface

DCGS Interface

- Released HBS ICD and Emulator
- RFC/LMD desire improved ICD detail to lower HBS flight test risk

Flight Test

Technical Progress



AFS Platform

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Major Activities

ASIP Integration

- SWAP, Cooling, Heat Exchangers, Antenna agreements
- Group A cabling trades complete
- GPS Pulse Per Second (1-PPS) and DRO clock variability is being investigated
- Good closure rate on issues between contractors and USG

Flight Test

- Initial planning

Technical Progress

Global Hawk Platform

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Major Activities

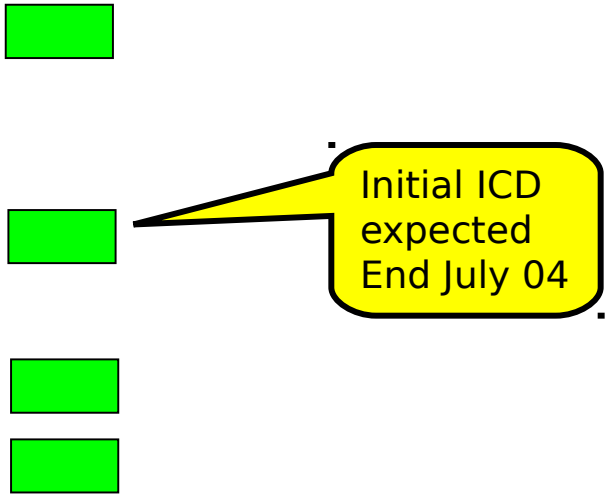
HBS Integration on UAV
- **HBS GH ICD Released**
- **UAV-7 Modification Plan**

ASIP Integration on UAV
- **ASIP GH ICD**

HBS Flight Test

ASIP Flight Test

Technical Progress



AFS Data Link

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Major Activities

Technical Progress

Modify AFS Airborne Network Interface Software

Modify AFS Ground and GSE Network Interface Software

Support Sensor-DCGS ICWGs

- Provided ATM LOS/BLOS link rates and timing
- Provided physical FO interfaces

DCGS - GCP

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Major Activities Progress	Technical
• **Modify GCP for HBS/ASIP**	
– **Successful PDR (focus on HBS)**	
• **Install upgrades in MTCS and a TBD operational site**	
• **Participate in flight trials**	
• **Integrated Master Schedule**	
– Drives all SoS planning	

DCGS - DGIF

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Major Activities

- **Modify DGIF for HBS/ASIP**
  - **Successful PDR (focus on HBS)**
- **Install upgrades in STF-II and a TBD operational site**
- **Participate in flight trials**
  - Chairing Tie Line WG
- **E2E Performance Document**
  - Drives TPWG
  - Ready for Signature
  - Basis for OPI

Technical Progress

Technical Progress Summary

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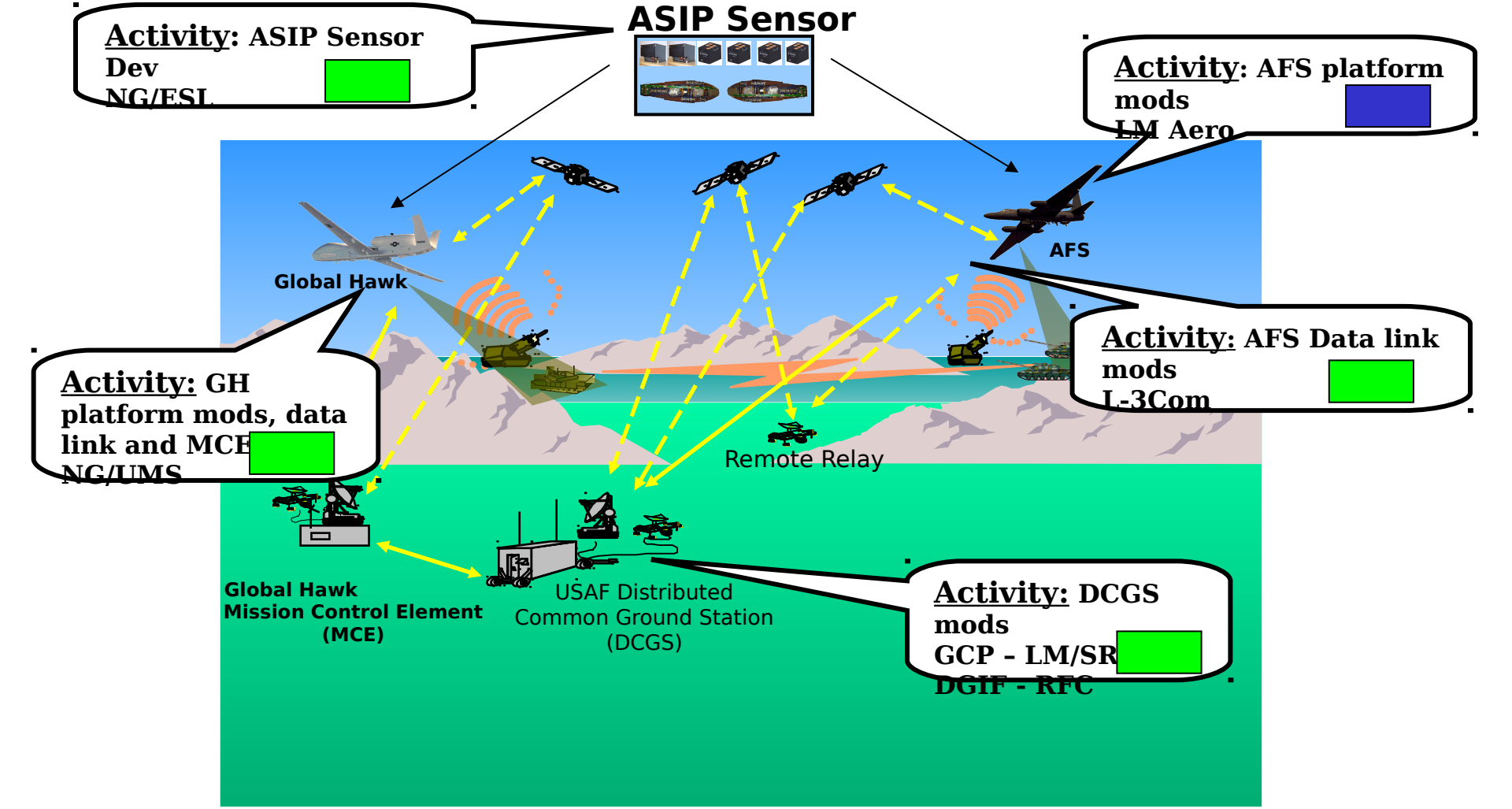
ASIP Sensor
Activity: ASIP Sensor Dev NG/ESL
Activity: AFS platform mods LM Aero
Global Hawk
AFS
Activity: GH platform mods, data link and MCE NG/UMS
Activity: AFS Data link mods L-3Com
Remote Relay
Global Hawk Mission Control Element (MCE)
USAF Distributed Common Ground Station (DCGS)
Activity: DCGS mods GCP – LM/SR DGIF - RFC

LOCKHEED MARTIN

Raytheon

NORTHROP GRUMMAN

L3 communications

ASIP Sensor Scope

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- **Implement ASIP sensor as extension to HBS PCU architecture**
  - Pulse search (0.5-18 GHz)
  - CW search (0.5-18 GHz)
  - AOCO pulse collection
  - Mated to DCGS
- **Add TCS, TAS, Type C (for U-2), and Special Signals (T5/6/16 plus Type A and Type D)**
- **Work with Raytheon & Lockheed to expand DCGS sensor control, signal exploitation and distribution for ASIP unique capabilities**
- **Develop, test and deliver sensor payloads for GH and U-2**
- **Support SIL checkout, platform integration, and flight tests for each platform**
- **Support planning for transition to sensor production**

ASIP Program Status

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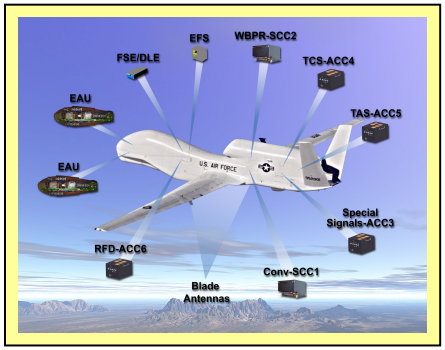
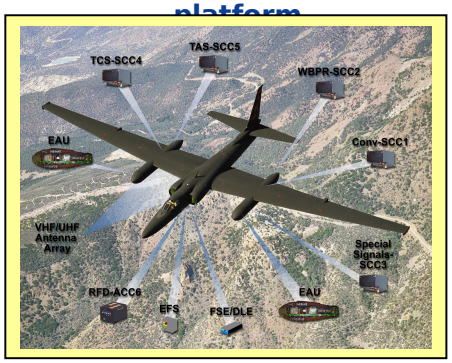
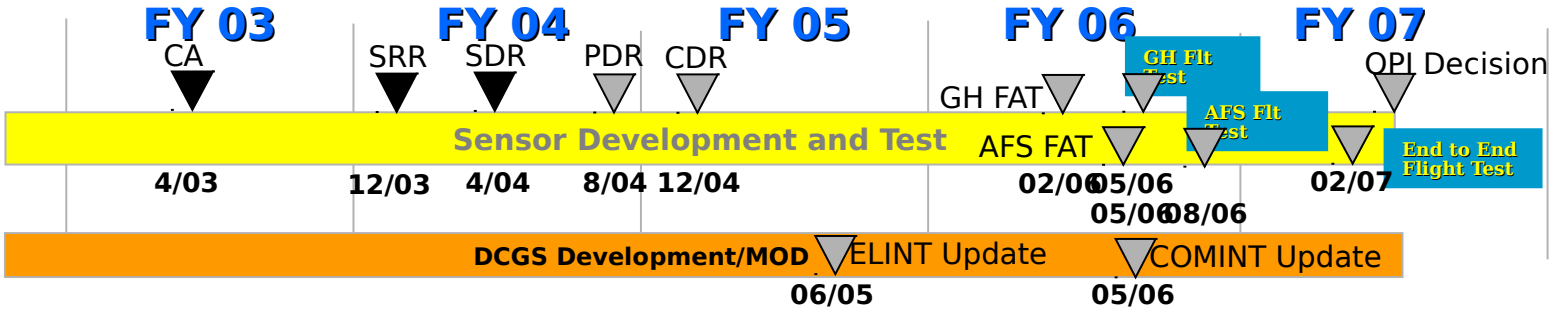
- **Performance**
  - Sensor system design optimizes application of COTS hardware into the open/proven High Band System architecture
  - Design meets ACC/AIA requirements for initial deployment
  - Significant software reuse from legacy systems for Low Band functionality
- **Program Schedule**
  - Completed System Design Review
  - Preliminary Design Review in August
  - Integration and Test scheduled to begin May 05
  - Flight Test scheduled to begin May 2006



Representative installation of ASIP on a Global Hawk RQ-4B platform



ASIP installation on the AFS platform



ASIP Hardware Architecture

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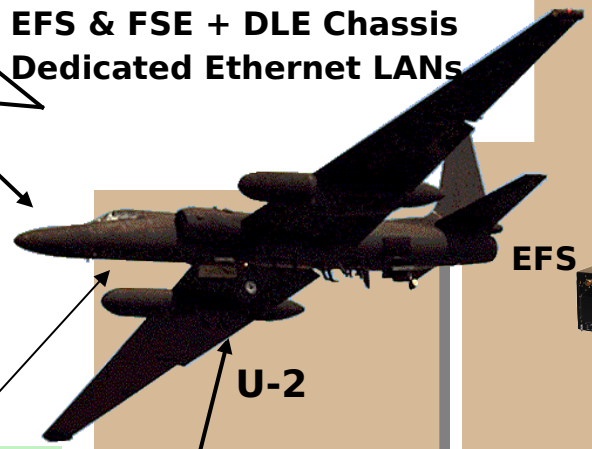
ASIP Architecture

- EAUs + Blades
- Air and Sprayed Cooled Chassis (ACC/SCC)
- EFS & FSE + DLE Chassis
- Dedicated Ethernet LANs



AFS ASIP INTEGRATION

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- **Phase I**
  - Feasibility Study and Requirements Development
    - LMA Contract Award – Jun 03 (results to be briefed 24 Aug 04)
    - L3-Com Contract Award – Jun 03 (status report – Jun 04)
  - Site II Accreditation Facilities Upgrade (supports HBS demo)
    - Contract Award – Jun 04
    - Final Accreditation expected Nov 04
- **Phase II**
  - Development Effort for Integration of System 1
    - Contract Award expected within 30 days
- **Phase III**
  - RE Effort for Systems 2&3

AFS ASIP SQWAP

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- **Close coordination between LM Aero and NG/ESL on size, thermal, weight and power analysis**

- **No significant issues found with AFS ASIP SQWAP**
  - No weight problems in left (6% margin) or right pods (17% margin)
  - No shear weight problems in Q-bay (7% margin)
  - No lateral imbalance or CG problems anticipated
  - No thermal problems but Q-bay has little margin left (1%)
  - No AC or DC problems anticipated

- **Coordination is underway between WR-ALC/LX, ASC/RAJ, ASC/RAP, and LM Aero on preliminary SWAP allocations for ASIP**

AFS Mission Configurations and Growth Provisions

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- **During SQWAP Analysis, AFS Mission Configuration impacts were also analyzed**

- **Current SQWAP supports a multi-intelligence sensor suite. Sensor combinations evaluated include ASIP, plus:**
  - Heaviest Imagery sensor (ASARS-2A)
  - Heaviest Data Link (DDL-II) with forward RFA
  - Heaviest Network Link (Link-16 – future system)
  - Plus Direct Threat Warning (future system)
  - Hottest thermal combinations considered
  - Highest power consumers considered

AFS Mission Configurations and Growth Provisions

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- **QRC Spiral Growth capability exists and is supported in Spray Cooled Chassis #7 in left pod**
  - **This presents the least impact (redesign) for AFS ASIP future growth capabilities**

Left Pod

SCC1
SCC2
SCC3
SCC7
(w/ QRC provisions)

Q-Bay

ACC6
ASIP small boxes

ASARS-2A Processor
or
SYERS

Forward Data Link RFA

Link-16 **
or CTT

Direct Threat Warning **

Right Pod

SCC4
SCC5

Data Link

** Future Systems

Summary

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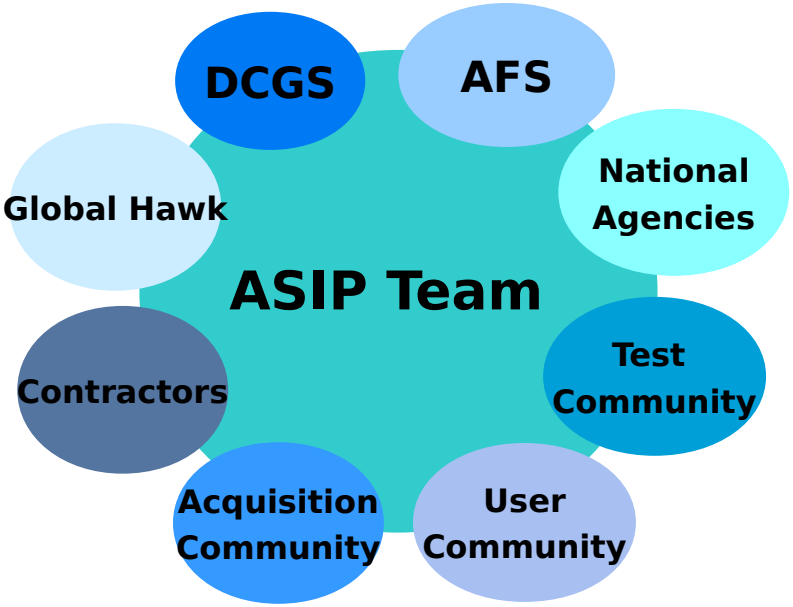
- **ASIP is on track to deliver SIGINT capability to the operator in FY07**
- **Addressed System-of-Systems acquisition approach and established incentivization program for success**
- **All SOS elements are coordinated and on track to deliver**



Spirit of 9-11
"LET'S ROLL!"

Test Concept

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Traditional Approach

2 separate test eff
-RTO led DT
-AFOTEC led OT

ASIP → Global Hawk

+

RTO led DT

ASIP → U-2

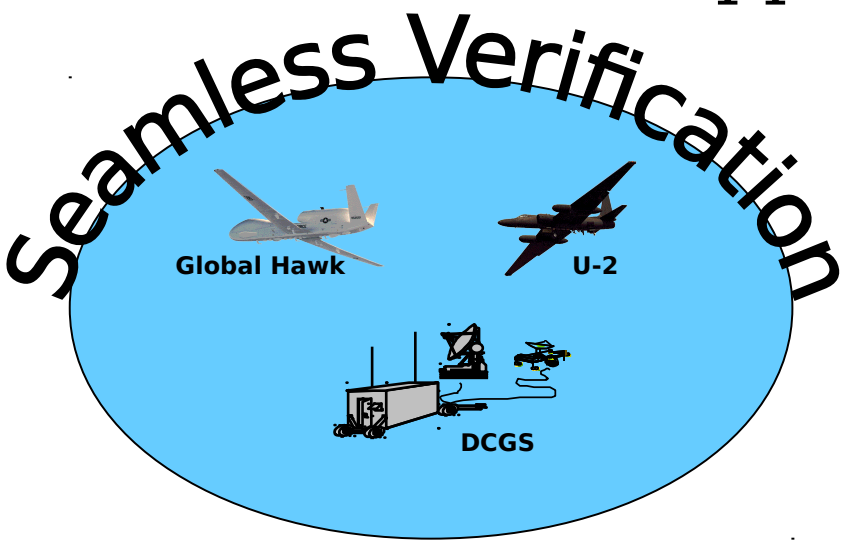
+

2 separate test ef
-RTO led DT
-AFOTEC led OT

ASIP → DCGS

= **High cost**
Conflicting outcomes

Recommended Approac



SoS Test Approach

-412tw takes lead in DT strategy
-AFOTEC takes lead in OT strategy
--Integrated Test Plan
--Synchronized OAs
--End-to-End Ops Test
--Use EPD as SoS ORD

Issues

SOS Integrated & Distributed Test Structure

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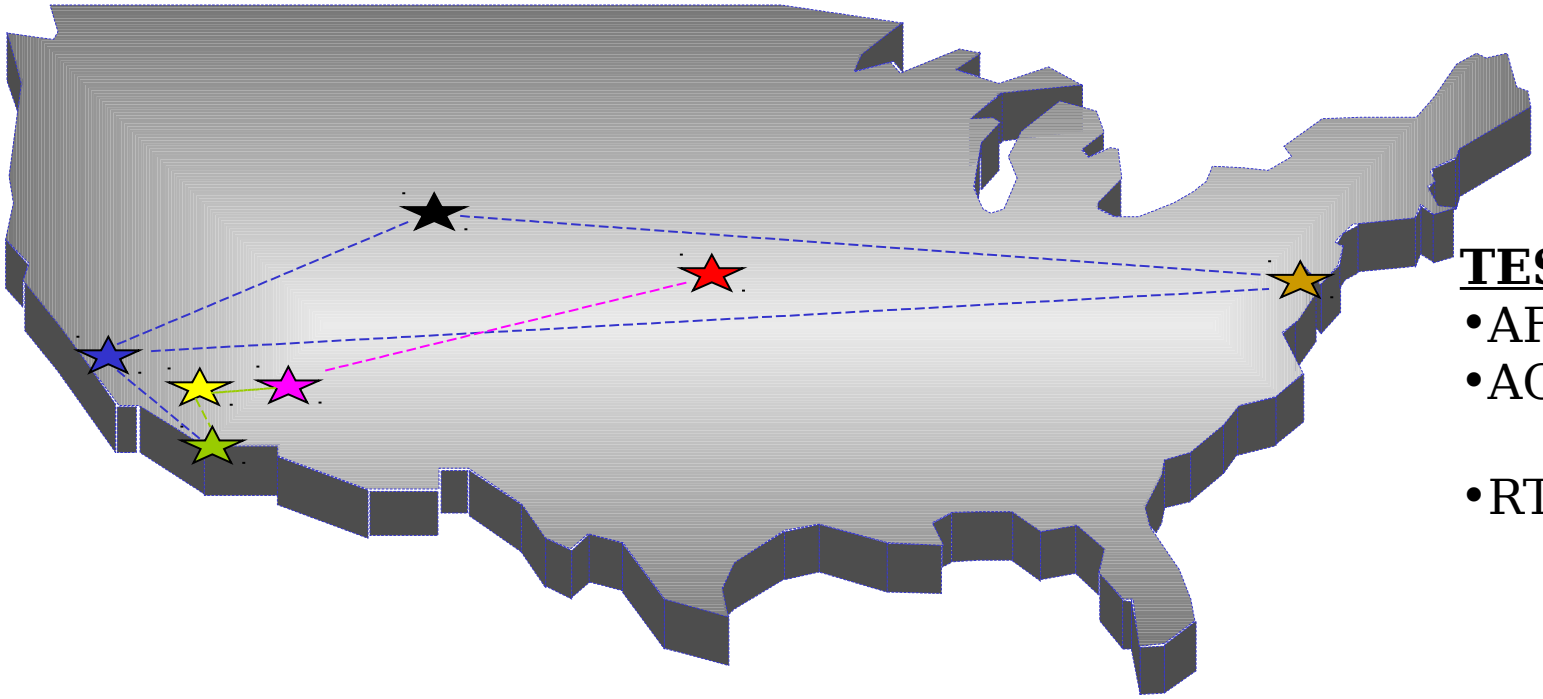
Rapidly delivering war-winning capability

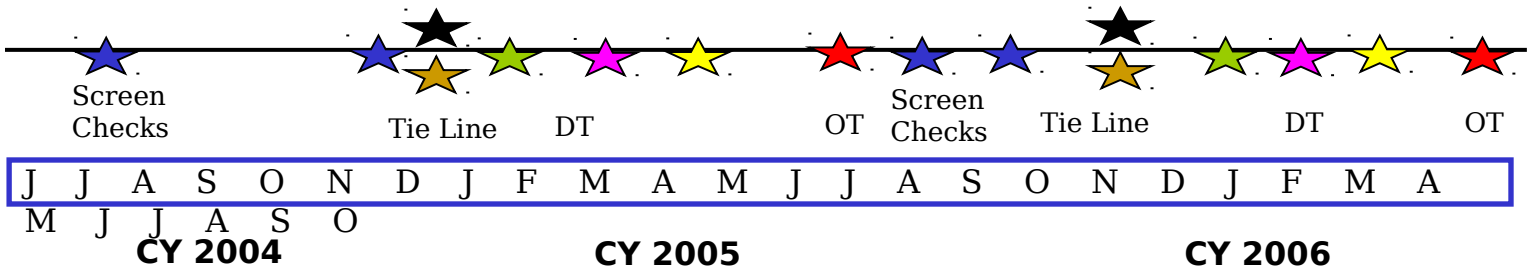
Issues



TEST TEAM

- AFOTEC
- ACC/AIA
  - Providing O
- RTO

OITL SOS (HBS/ASIP) Events



- NG/ESL
- LM/Denver
- Raytheon/F
- NG/UMS
- Edwards
- Palmdale
- DCGS (TBD

Airborne Signals Intelligence Payload

Risk Area: Integration

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Rapidly Delivering War-Winning Capability

Issue Title: ASIP integration with AF-DCGS, GH, U-2	**POC:** ASC/RAJS, Capt Scott Carlson **Affected Programs:** AF-DCGS, GH, U-2

Issue Description: If ASIP is not integrated properly with AF-DCGS, GH, U-2

Impact of Integration	**AE**
Probability of Integration	**SU**
Capability / Integration Risk	**M**

+ =

Impact Assessment: then end-to-end system capability maybe degraded.

Integration Funding Status	**NR**
PM/CE Assessed Priority	**L**

+ =

Mitigation Plan:

ICWG process initiated	15 Dec 02	
End-to-End performance document working group	14 Jan 04	
Industry lead EPD review	14 Jan 04	ongoing
Industry IMS Reconciliation	15 Jan 04	completed
Implementation of the Objective Performance Incentive		03 Jun 04
Set-up of dev lab with DSU & tie-lines to a/s contractors		01 Nov 04
End-to-end testing via tie-lines	21 Apr 06	

Status: ICWG, Working Groups (IMS, ICD, EPD) on-going. EPD in signature coordination

Recommendation: ASIP/DCGS end-to-end perf is verified as successful and approved for fielding.

Airborne Signals Intelligence Payload
Risk Area: Transition

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Issue Title: System end-to-end performance **Affected Capabilities:** Sensor, Platform Integration and ground station.	**POC:** ASC/RAJS, Capt Scott Carlson **Affected Programs:** ASIP, AF-DCGS, U-2 & GH

Issue Description: If total system (sensor, platform integration, ground station) end-to-end performance doesn't meet all the system requirements,

Impact Assessment: then extensive rework will be required before fielding.

Impact of Integration	**S**
Probability of Integration	**AE**
Capability / Integration Risk	**M**
Integration Funding Status	**F**
PM/CE Assessed Priority	**L**

+ = + =

Mitigation Plan:

End-to-end performance document working group	14 Jan 04
Industry IMS Reconciliation	15 Jan 04 Completed
Complete Development of ICDs via ICWGs	15 Nov 04
Implementation of the Objective Performance Incentive	03 Jun 04
Set-up of dev lab with DSU & tie-lines to a/s contractors	01 Nov 04
- HB emulator/simulator del to LM Den / Raytheon FC	01 Feb 04 Completed
- Type A GUI delivered to Raytheon FC	03 May 04 Completed

Status: ICWG, Working Groups (IMS, ICD, EPD) on-going, EPD baseline in signature

Recommendation: End-to-end performance meet's the EPD criteria and user expectations.

Airborne Signals Intelligence Payload
Risk Area: Transition Continued

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Mitigation Plan:

End-to-end testing via tie-lines	21 Apr 06
End-to-end testing	01 Feb 07

Airborne Signals Intelligence Payload

Risk Area: Schedule

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Issue Title: Synchronization among industry teammates **Affected Capabilities:**	**POC:** ASC/RAJS, Capt Scott Carlson **Affected Programs:** ASIP, AF-DCGS, U-2 & GH

Issue Description: If industry teammates are not synchronized,

Impact Assessment: then on-time capability delivery may be jeopardized.

Impact of Integration	**Mod**
Probability of Integration	**SU**
Capability / Integration Risk	**M**
Integration Funding Status	**NR**
PM/CE Assessed Priority	**L**

Mitigation Plan:

ACAs established between all contractors	01 Nov 03
Synchronized Incentivization Industry Day	12 Aug 03
Industry IMS reconciliation	15 Jan 04
Dev of synchronized contract incentives (award fee/CPARs)	03 Jun 04
ASIP SOS Synchronization Integration Plan	03 Jun 04
Implementation of the Objective Performance Incentive	03 Jun 04
Synchronized award fees/period plans/CPARS for Milestones	15 Nov 04

Status: ACAs being established, OPI clause is being established, synchronization of award fee/period plan evaluation criteria on-going.

Recommendation: Several award fee/CPAR periods must be completed with EXCELLENT cooperation

Airborne Signals Intelligence Payload

Risk Area: Architecture

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Rapidly Fielding Mid-Winning Capability

Issue Title: Architecture Compliance **Affected Capabilities:**	**POC:** ASC/RAJS, Rob Geise/Gary Halliday **Affected Programs:** ASIP	
Issue Description: If ASIP elements are not compliant with applicable architectural standards	**Impact of Integration**	**M**
	Probability of Integration	**VU**
	Capability / Integration Risk	**L**
Impact Assessment: then future interoperability and commitment to investment roadmaps may be jeopardized	**Integration Funding Status**	**F**
	PM/CE Assessed Priority	**L**

Mitigation Plan:

RAJS has extensive architectural planning expertise	01 Sep 03 Completed
Systems engineering effort for compliance verification	08 Apr 03 Ongoing
JASA compliance verification kickoff with NSA/NTIO	05 Jun 03 Completed
NSA/NTIO participated at SRR	17 Dec 03 Completed
Interim CV assessment	20 Jul 04
Final CV assessment	20 Nov 04

Recommendation: NSA/NTIO performing CV against HBS and will perform delta CV for ASIP, interim assessment after PDR, final after CDR

Status: JASA compliance certification post CDR

Airborne Signals Intelligence Payload

Risk Area: Architecture

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Issue Title: Portability between ASIP and ACS **Affected Capabilities:**	**POC:** ASC/RAJS, Rob Geise/Gary Halliday **Affected Programs:** ASIP & ACS

Issue Description: If ACS and ASIP do not share a common open architecture,

Impact of Integration	**Mod**
Probability of Integration	**AE**
Capability / Integration Risk	**M**
Integration Funding Status	**NR**
PM/CE Assessed Priority	**L**

Impact Assessment: then the Government will not be able to leverage the portability of SIGINT applications across ASIP and ACS programs.

Mitigation Plan:

Integration Form meeting with ACS program office	12 Apr 03 on-going
RAJS participating in ACS demos & PDRs	12 Jul 03 Completed
RAJS active in ASEIPT (middle-ware standards dev)	29 Aug 03 on-going
RAJS participating in ACS Source Selection	27 Feb 04 on-going
Allocate more dollars for application integration	30 Jul 04
ACS contract award	01 Sep 04
Architecture evaluation	01 Nov 04

Status: Active in ASEIPT & in ACS source selection activities

Recommendation: Demonstrate that ASIP and ACS can exchange SIGINT applications with minimal rework

Airborne Signals Intelligence Payload

Risk Area: Integration

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Issue Title: Global Hawk Payload Volume (formally named ASIP System Size, Weight and Power (SWaP))	**POC:** ASC/RAJS, Capt Scott Carlson **Affected Programs:** GH, U-2, DCGS	
Issue Description: If Global Hawk allocated payload volume doesn't allow for the ASIP Payload	**Impact of Integration**	**M/S**
	Probability of Integration	**VL** +
	Capability / Integration Risk	**L** =
Capability Impacts: GH TAS/TCS capabilities vulnerable, potential for U-2 ASIP capabilities (with exception of MC) reduced/delayed	**Integration Funding Status**	**NR** +
	PM/CE Assessed Priority	**L** =

Mitigation Plan:

System of Systems SRR	16 Dec 03 completed
ID team leads meeting	05 Jan 04
GH holds team meeting/build brief	12 Jan 04 On going
Info brief to 2 ltrs	30 Mar 04 Briefed at ESM 04 Mar 04
2 Ltrs decision brief to ACC	30 Apr 04 Briefed at ESM 04 Mar 04
GH/NG working ECP to allocate needed space	23 Jul 04 Contract Definitization

Status: Global Hawk tasked to assess total GH ORD requirements vs available SWaP. Identify what can/cannot be met and take to ACC/DR for decision. Awaiting ACC decision and FY06 POM results.

Recommendation: ACC direction on how to proceed

Airborne Signals Intelligence Payload

Risk Area: Integration

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Issue Title: Clearances	**POC:** ASC/RAJS, Capt Carlson **Affected Programs:** GH, U-2

Issue Description: If adequate TS-SCI clearances are not obtained by gov't/industry team

Impact of Integration	**M/S**
Probability of Integration	**SL** +
Capability / Integration Risk	**M** =

Impact Assessment: then adequate support for the program can not be provided

Integration Funding Status	**NR** +
PM/CE Assessed Priority	**M** =

Mitigation Plan:

Compile list of names that require clearances	30 Mar 04	Completed
Document adverse program impacts (by name)	30 Mar 04	Partially Completed
Identify who requires "silver bullet"	30 Mar 04	Completed
Forward to ASIP PM	30 Mar 04	Completed

Status: Three out of seven names have been submitted with program impact statements. Security is researching the programs ability to accelerate contractor SCI clearances. Jewel and Fong clearances are being accelerated.

Recommendation: Cleared personnel match program requirements.

Airborne Signals Intelligence Payload
Risk Area: Transition

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Issue Title: Flight Test Assets	**POC:** ASC/RAJS, Capt Scott Carlson/Tim Blanzy **Affected Programs:** AF-DCGS, GH, U-2

Issue Description: If flight test assets are not available for flight testing

Impact of Integration	**AE**
Probability of Integration	**S**
Capability / Integration Risk	**M**

+ =

Impact Assessment: fielding next generation High Alt SIGINT capabilities will be delayed..

Integration Funding Status	**NR**
PM/CE Assessed Priority	**M**

+ =

Mitigation Plan:

TPWG	29 Jan 04 on-going
Sub IPT TPWG	27 Apr 04 Completed
IMS Working Group	15 Jan 04 on-going
Test AV assignment/schedule	03 Jun 04
Built I&T Surrogate Trip-Wire Decision Roadmap	02 Jun 04
Use AV-7 (ACTD air vehicle) as test asset	30 Jun 04

Status: Global Hawk working test utilization priority. Investigating accelerating AFS flight test asset. Building Trip-Wire decision roadmap. TPWG working detailed planning.

Recommendation: Flight Tests Assets Available

Primary Integration Areas

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- **AFS ASIP primary integration areas**
  - **Size, Thermal, Weight, and Power (SQWAP) Analysis**
  - **Mission Configurations and Growth provisions**
  - **Mechanical Interface**
  - **Electrical Interface**
  - **Thermodynamic and Heat Exchanger Interface**
  - **Environmental Qualification Testing**
  - **Flight and Ground Testing Approach**
  - **Logistics and Sparing**
  - **Ground Support Equipment**
  - **AFS Platform Certification and Accreditation Approach**
  - **Site 2 Facility Accreditation Efforts**

AFS ASIP INTEGRATION

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- **Site II Accreditation Facilities Upgrade**
- **Tasks**
  - **STF-II Mods**
    - **Install fiber junction box w/lock and alarm**
  - **MTCS III Mods**
    - **Install fiber junction box w/lock and alarm**
  - **South Lab Mods**
    - **Install dual access control point**
    - **Install lock and alarm on fiber junction box**
    - **Install 4 phone lines**
    - **Install GSA-approved safe capable of storing up to 50 hard drives and other hardware containing SCI material**
  - **Cable Mods**
    - **Install TEMPEST-approved fiber optic cable from South Lab Room to South Lab Fiber Optic J-Box**

Site 2 Security Accreditation

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- **LM Aero has been supporting efforts that support both HBS GH and ASIP testing in order to get Site 2 accredited for operation**
- **Palmdale Plant 42, Site 2 is a Government Owned, Contractor Operated Facility**
  - **LM Aero is responsible for Site 2 security**
- **LM Aero is currently under contract to perform physical security upgrades to Site 2, on a not-to-interfere basis with flight testing.**
  - **Authorization to proceed on July 6, 2004**
  - **Security and Facility kick-off meeting occurred on July 12, 2004**
  - **Site walkthrough with facilities occurred on July 13, 2004**
  - **Subcontractors to be coordinated, estimate completion by end of August, 2004**

AFS Platform Accreditation

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- **LM Aero currently gathering requirements for possible AFS platform accreditation**
  - **Researched precedence and procedures for aircraft accreditation (only *one* element of the ASIP *System* accreditation)**
  - **Conducted dialogue with one member of DICAST team regarding requirements**
    - **What requirements will be levied on the ASIP System and the AFS Platform?**
- **Requirements for Platform Accreditation being discussed in Certification and Accreditation Working Group (CAWG) channels**
  - **Proposed concept is Protection Level 3 for all elements of ASIP system (Airborne platform, ground stations, sensor, links)**
  - **DCID 6/3 (Protecting SCI within Information Systems) is current guidance for security requirements for ASIP System**
  - **AFOTEC, DIA and NSA will resolve the accreditation issues**

AFS ASIP SQWAP

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- **Close coordination between LM Aero and NG/ESL on size, thermal, weight and power analysis**
- **Three main configurations have been analyzed**
- **No significant issues found with AFS ASIP SQWAP**
  - **No weight problems in left (6% margin) or right pods (17% margin)**
  - **No shear weight problems in Q-bay (7% margin)**
  - **No lateral imbalance or CG problems anticipated**
  - **No thermal problems but Q-bay has little margin left (1%)**
  - **No AC or DC problems anticipated**
- **Coordination is underway between WR-ALC/LX, ASC/RAJ, ASC/RAP, and LM Aero on preliminary SWAP allocations for ASIP**

AFS Mission Configurations and Growth Provisions

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- **During SQWAP Analysis, AFS Mission Configuration impacts were also analyzed**

- **Current SQWAP supports a multi-intelligence sensor suite. Sensor combinations evaluated include ASIP, plus:**
  - **Heaviest Imagery sensor (ASARS-2A)**
  - **Heaviest Data Link (DDL-II) with forward RFA**
  - **Heaviest Network Link (Link-16 – future system)**
  - **Plus Direct Threat Warning (future system)**
  - **Hottest thermal combinations considered**
  - **Highest power consumers considered**

AFS Mission Configurations and Growth Provisions

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- **QRC Spiral Growth capability exists and is supported in Spray Cooled Chassis #7 in left pod**
  - **This presents the least impact (redesign) for AFS ASIP future growth capabilities**

Left Pod

SCC1
SCC2
SCC3
SCC7
(w/ QRC provisions)

Q-Bay

ACC6
ASIP small boxes

ASARS-2A Processor
or
SYERS

Forward Data Link RFA

Link-16 **
or CTT

Direct Threat Warning **

Right Pod

SCC4
SCC5

Data Link

** Future Systems

ISSUES

Issues

- **True definition of Group A kits and cost per kit**
- **Maximum loss in Group A cabling without system degradation**